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The Food Safety Educator

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Dramatic Decline in Foodborne Illness

Data from the Centers for Disease Control and Prevention (CDC) show a 23-percent overall drop for seven bacterial foodborne illnesses since 1996.

According to U.S. Department of Agriculture (USDA) Secretary Ann M. Veneman, "These data demonstrate that we are on the right track. Modern, science-based food inspection systems have contributed to our ability to control pathogens during food processing. Further reduction continues to be a top priority for the Bush administration."

The data come from the Foodborne Disease Surveillance Network (FoodNet) and are published in the April 19, 2002, issue of the *Morbidity and Mortality Weekly Report* (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5115a3.htm>).

The four major bacterial foodborne illnesses—*Campylobacter*, *Salmonella*, *Listeria*, and *E. coli* O157—posted a cumulative 21-percent decline in the past 6 years.

- *Campylobacter* declined 27 percent,
- *Salmonella* declined 15 percent,
- *Listeria* declined 35 percent, and
- *E. coli* O157:H7 declined 21 percent (from 2000 to 2001).

These declines indicate "progress toward meeting national health objectives of reducing foodborne diseases by 2010," according to the article's authors.

CDC credits the reduction to a number of factors, including the USDA implementation of the Pathogen Reduction/Hazard Analysis and Critical Control Points (HACCP) regulations in meat and poultry plants.

According to CDC, "The decline in the rate of *Salmonella* infections in humans coincided with a decline in the prevalence of *Salmonella* isolated from FSIS-regulated products to levels well below baseline levels before HACCP was implemented."

USDA Promotes Safe Food Handling—AND New Services in Spanish



Dr. Elsa A. Murano, under secretary for food safety at the U.S. Department of Agriculture (USDA), checks the temperature of a hamburger with a food thermometer during a visit to a senior center in Florida. Dr. Murano's visit was part of a campaign to promote safe food handling and announce the expansion of USDA's Meat and Poultry Hotline to include services for Spanish-speaking callers.

Eric Bost, left, USDA under secretary for food, nutrition, and consumer services, accompanied Dr. Murano and announced a grant to a local high school to provide food service training. Sandra Canales, University of Florida Extension Program, also joined Dr. Murano.

To learn more about food safety information in Spanish, see article on page 4.

CDC also noted other interventions that have contributed to the decline in illness rates, including:

- egg quality assurance programs,
- increased attention to fresh produce safety through better agricultural practices,
- introduction of HACCP in the seafood industry,
- regulation of fruit and vegetable juice,
- industry efforts introducing new intervention technologies to reduce food contamination,
- food safety education, and
- increased regulation of imported food.

continued on pg. 2

CDC also noted that enhanced surveillance and outbreak investigations have identified new control measures and focused attention on preventing foodborne disease.

While the FoodNet data underscore progress, they also point to problem areas. The data continue to show high incidence of foodborne disease in children, especially infants. Calling this "of major concern," FoodNet has initiated a case-control study of sporadic cases of *Salmonella* and *Campylobacter* in young children. (See related item, "FoodNet Abstracts," this page.)

In an editorial note, the CDC authors add that future efforts to reduce foodborne illness "might include steps to reduce the prevalence of these pathogens in their respective animal reservoirs...."

The final FoodNet report with additional incidence figures and other information will be available online later in 2002 at <http://www.cdc.gov/foodnet> •

■ Reduction of *Salmonella* in Raw Meat and Poultry

Data released by the U.S. Department of Agriculture's Food Safety and Inspection Service (FSIS) show declining levels of *Salmonella* in raw meat and poultry after the implementation of a new food safety inspection system called Pathogen Reduction/Hazard Analysis and Critical Control Points (HACCP) in 1998.

The decrease in the prevalence of *Salmonella* in raw meat and poultry from 1998 to 2001 correlates with reports from the Centers for Disease Control and Prevention indicating a decline in human illnesses linked to *Salmonella* during the same time period. The new data indicate that all categories of product show improvement. Details of the report can be found at: <http://www.fsis.usda.gov/ops/haccp/salm4year.htm> •

■ FoodNet Abstracts:

Presentations from FoodNet researchers at the International Conference on Emerging Infectious Diseases (March 2002) are an indicator of the wealth of information being collected through the FoodNet surveillance system.

The following abstracts are just a sampling of new information now available to educators and provide critical information for future educational initiatives.

The abstracts are accessible through the FoodNet Web site:
[http://www.cdc.gov/foodnet/
pub_abstracts.htm](http://www.cdc.gov/foodnet/pub_abstracts.htm)

In addition, all of the presentations from the conference are accessible online in webcast format and include speakers' slides. (You can view sessions or presentations of interest to you and earn CE credits.) Go to: <http://www.cdc.gov/iceid>

■ Foodborne Illness Among Children Under 5

For the six pathogens monitored, children under 5 accounted for 21 percent of cases of illness. Specifically, children under 5 accounted for:

- 13 percent of *Campylobacter* cases,
- 29 percent of *E. coli* O157 cases,
- 10 percent of *Listeria* cases,
- 27 percent of *Salmonella* cases,
- 28 percent of *Shigella* cases, and
- 53 percent of *Yersinia* cases.

The authors' conclusion: "investigation of risk factors specific to this age group and a review of current prevention and control strategies and their enhancement specifically for young children might lead to appreciable reduction in illness."

■ Risk Factors for Sporadic *Escherichia coli* O157 Infections in the United States: a Case-control Study in FoodNet Sites, 1999-2000

Preliminary analysis indicates undercooked ground beef, surface waters, and farms continue to be sources of sporadic *E. coli* O157 infections in the United States. However, unlike previous case-control studies, infections were not associated with restaurant consumption of undercooked ground beef. The authors suggest this may reflect "improvements in restaurant handling of ground beef or changes in eating habits."

continued on pg. 3

The Burden of Diarrheal Illness in FoodNet, 2000-2001:

This abstract confirms previous estimates of the relationship between reported and unreported cases of diarrheal illness.

It also notes that "The prevalence of illness was highest among children less than 5 years old (9%) and lowest among those over 65 years old (2%)."

(Editor's note: Information on the relationship between age and food-borne illness can be found in the FoodNet 1999 Final Report, page 62: http://www.cdc.gov/foodnet/annual/1999/pdf/99_annual_pdf.htm)

"For the six pathogens monitored, children under 5 accounted for 21 percent of cases of illness."

Higher Rates of Listeria Infections Among Hispanics:

In FoodNet sites from 1996 to 2000, there was a higher incidence of listeriosis among Hispanics compared with non-Hispanics, particularly in infants and women of childbearing age.

Hispanic infants had a 12 times greater incidence of listeriosis and Hispanic women age 30 to 34 had a 13 times greater incidence than non-Hispanic counterparts.

The authors of the abstract encourage educational campaigns targeted to pregnant women in the Hispanic community. •

Marked Regional Variation in the Incidence of Laboratory-confirmed Bacterial Foodborne Illness: FoodNet, 2000:

This abstract confirmed the wide variation in foodborne illness from region to region.

For instance, *Campylobacter* is the most frequently diagnosed pathogen. However, the incidence of *Campylobacter* varied from 6.6 cases per 100,000 population in Tennessee to 38.2 cases in California.

Age, Ethnic and Racial Disparity in *Salmonella* serotype Enteritidis (SE): FoodNet, 1998-2000:

Children under 5 years of age had an incidence of SE twice as high as any other age group.

In addition, the incidence of SE in Blacks was higher than in other racial or ethnic groups.

Available in Spanish: Information on Listeriosis and Pregnancy

NEW!
As part of a federal campaign to provide patient education concerning *Listeria*, a new publication for pregnant women is now available in Spanish: *Listeriosis and Pregnancy: What is Your Risk? (La Listeriosis y el Embarazo: Cuál es su Riesgo?)*

The double-sided fact sheet provides an explanation of listeriosis, symptoms and health effects—and advice for preventing illness. To request copies, e-mail: fsis.outreach@usda.gov

The publication can be accessed through the Web. Go to: http://www.fsis.usda.gov/oa/pubs/lm_tearsheet_sp.pdf •

Restaurant-associated Behavior from the FoodNet Population Survey, 1998-99:

This survey was administered to 12,755 people between March 1998 and February 1999.

Who "eats out" the most? According to the survey the answer is young people between the ages of 16 and 25. Ten percent of this group say that they ate at a fast food or sit-down restaurant more than 7 times in the previous week.

According to the survey, a substantial number of people who eat out frequently also admit to preferring higher risk foods, such as undercooked hamburgers.

NEW!

Going to the Barrios With Safe Food Handling Tips

Dr. Elsa Murano, under secretary for food safety for the U.S. Department of Agriculture, came calling on Hispanic communities in Florida in May 2002 to announce new services in Spanish, including a Spanish-speaking food safety expert on the tollfree USDA Meat and Poultry Hotline (800-535-4555).

"We need to be aggressive with our food safety education programs," says Dr. Murano, "especially when it comes to getting the word out to groups that don't usually use our services."

Dr. Murano, who was born in Cuba, succeeded in getting the word out.

As a result of her appearance in the community and media interviews with newspapers and two national Spanish television networks, 65 calls from Spanish-speaking consumers around the country came into the USDA Meat and Poultry Hotline over a 2-day period.

Getting food safety information to Hispanic populations can be difficult, according to Susan Conley, director of food safety education for the Food Safety and Inspection Service (FSIS).

"Traditional approaches, including newspaper ads and press releases, don't always reach into these communities. As a result, we are working to link with new partners and establish new ways of communicating," she says.

Reaching the Hispanic community can be especially important when it comes to safe food handling because they may face special risks. New data from the Centers for Disease Control and Prevention, for instance, show that Hispanics have significantly higher rates of illness from some foodborne pathogens, (see "FoodNet Abstracts," page 3).



Olga Catter is the food safety expert on the USDA Meat and Poultry Hotline who handles calls from Spanish-speaking consumers.

"Yes, yes," she says, "many people called after the Hotline's services were promoted in Florida. They all wanted copies of our free publications. Many people explained that they had limited finances, so they were happy to learn that there was no charge, that was very important to them."

In fact, FSIS has a growing number of publications in Spanish that explain safe food handling.

Spanish-speaking callers to the Hotline can receive a packet of Spanish publications that includes

basic safe food handling information, tips for using microwave ovens safely, cooking for groups, how to use a food thermometer, and a magnet that includes temperatures that foods should be cooked to for safety.

These publications, and others, are also available on the Web:
<http://www.fsis.usda.gov/oa/pubs/languages.htm>

Copies of publications can also be requested by e-mailing:
fsis.outreach@usda.gov

Recorded messages in Spanish providing safe food handling tips are also available 24 hours a day through the USDA Meat and Poultry Hotline: 1-800-535-4555; for the hearing impaired, (TTY) 1-800-256-7072. •

■ FSIS Targets Support to Foodservice/Public Health

Through a series of cooperative agreements, the Food Safety and Inspection Service (FSIS) is moving to provide additional educational support for foodservice and public health inspectors.

According to Dan Vitiello with the agency's federal, state, and local government relations staff, there are 1.2 million foodservice facilities in the U.S. More than 3,300 local agencies are responsible for conducting inspections—which occurs on average once every 3 months.

Providing training assistance to inspectors and education for foodservice is a key component of the farm-to-table food safety chain, said Vitiello.

In 2001, FSIS allocated \$500,000 to a variety of foodservice projects:

■ Support for state retail food safety task forces:

In 2001, FSIS provided \$35,000 to each of eight states in support of task forces to establish cooperative partnerships between government and industry within the state.

"These state task forces," said Vitiello, "hold so much promise. The task forces are designed to create a system of communications linking government and industry partners at all levels.

"We need to have industry and government working together in partnership, not as adversaries. In some cases, this requires a whole culture change.

"My greatest hope is that the task forces will provide a system of communication that will help people at the local level and set up structures for food safety education."

The Georgia Food Safety Task Force, for example, is using its funding to network with organizations representing ethnic and small business

operators and provide assistance interpreting regulations and laws.

It also purchased software to provide translations for different ethnic groups and produce booklets as well as ready-reference cards.

■ Cooperative agreements for retail food safety outreach with municipalities:

Four municipalities received \$23,000 each from FSIS in 2001: Los Angeles County; New York City; Philadelphia, and Maricopa County, AZ.

According to Vitiello, "these are unique projects that really reach out into the heart of the community, providing a hand-up to them and invaluable information for us."

Part of the Los Angeles project, for example, involves a study of 80 small restaurants. The study is designed to provide a better understanding of the characteristics of small restaurants—including the knowledge, attitudes, and behaviors of managers and frontline staff. This information will be used to develop new educational materials specifically for those audiences.

■ Retail food safety partnerships with colleges and universities:

Six colleges and universities received \$23,000 each in 2001 to help target food safety education materials to underserved communities, such as small restaurants and grocery stores in urban and rural areas.

A unique project in Montana targets food safety education materials to seven tribal colleges providing training for future foodservice workers.

To read more about these and other FSIS efforts to support foodservice education and training, go to: <http://www.fsis.usda.gov/oppde/fs/grs/index.htm> •

■ More Help for Local Public Health

The National Association of City and County Health Officials (NACCHO) is also concerned with providing support to local public health agencies.

According to NACCHO research, the typical local public health agency serves between 75,000 and 500,000 people.

With an average of three people on their food safety staff, they annually inspect 277 restaurants, 37 retail markets, 27 schools, six child care centers, and one hospital.

There is no question that these folks need to be everywhere and do everything.

These agencies also face staff shortages, more responsibilities, and new pressures from emerging issues like bioterrorism.

To try to help local food safety programs, NACCHO has begun work on a 5-year project funded by the Centers for Disease Control and Prevention.

As a first step, NACCHO worked to identify needs at the local level by surveying 1,110 local public health agencies and conducting focus group research.

The results of that research are now available online: <http://www.naccho.org/project39.cfm>

Research results confirm that many local public health agencies are interested in being a source of food safety education for consumers and foodservice—and they are interested in helping retailers apply concepts like Hazard Analysis and Critical Control Points.

This research will provide the foundation for the next phase of the program—identifying an action plan to address identified needs. •

Take a Look at Real Magic: Disney and Food Safety

"Food safety is magical, but it doesn't magically happen," Frank Yiannas, manager of food safety and health at Walt Disney World, likes to say.

Responsible for the safe food served to the thousands of guests who come to Walt Disney World, Yiannas knows the truth behind this statement.

Foodservice at Walt Disney World is a dizzying array of complexity; utilizing foods from hundreds of suppliers, relying on 5,000 food and beverage "cast members," and serving food from hundreds of sites ranging from quick service to full-service kitchens serving convention dinners.

"We refer to our employees as 'cast members,' because we're all part of the show," Yiannas explains. And what a show it is!

While guests wander through a place of wonder, behind the scenes science, planning, and teamwork combine to ensure food safety.

"When I think of food safety, there is no silver bullet," says Yiannas. Instead, Yiannas addresses issues at each step of the food safety chain.

In order to purchase the safest food possible, Walt Disney World developed and uses a Vendor Food Safety Program to screen new vendors and monitor existing vendors. Vendors must meet a variety of requirements, including providing a Hazard Analysis and Critical Control Points (HACCP) plan and a sanitation plan. They also undergo food safety audits and microbiological testing.

When it comes to training 15,000 "cast members," Yiannas believes "you need to go beyond just relaying information. You need to look at how influence behavior, and we use a



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variety of tools, including social marketing principles," Yiannas notes.

Social marketing works to change behavior by utilizing audience research to construct messages specifically for targeted audiences.

"One of the things we do," Yiannas explains, "is to provide 'wake-up messages.' "

Some of these messages are delivered through videos designed to reinforce the real-world relationship between foodborne illness outbreaks and people—real illness, real consequences. "We don't want people to get so comfortable that they don't hear the food safety message," he explained.

Their training program is also science- and risk-based.

"When you look at training that's available off-the-shelf, frequently there is no real relationship between the training principles and the causes of foodborne illness indicated by science-based data. We try to gear our training to areas of risk," Yiannas says.

One of those key areas is hygiene. Yiannas notes that the Centers for Disease Control and Prevention estimates that a large percentage of foodborne illness outbreaks may be attributed to poor personal hygiene.

Another key to food safety—no bare hand contact. According to Yiannas, "we use enough single-service gloves in 1 year to fit the entire population of Florida—and still have gloves left over. We have long recognized the need to keep hands away from direct contact with ready-to-eat foods."

Training messages are reinforced on a daily basis through electronic communications, including an Intranet food safety site, traditional vehicles like signs and newsletters, and personal interaction and evaluations from foodservice and health inspectors.

Walt Disney World relies on HACCP to assure that foods and beverages are handled safely by checking time and temperature requirements throughout the day. "These plans aren't required by law, but we do it for the right reason, to produce the safest food possible," Yiannas says.

Indeed, HACCP is everywhere at Walt Disney World. They have HACCP cards, a HACCP manual, daily and weekly HACCP checklists, and they are testing a paperless HACCP project.

Technology and information sharing is key to the future of food safety, according to Yiannas. One

continued on pg. 7

news briefs

■ New! School Food Safety Web Site



<http://www.FoodSafeSchools.org>

This Web site is a one-stop gateway to a wealth of Internet-based school food safety information and resources.

Developed by the National Coalition for Food Safe Schools, the site specifically targets a variety of audiences, including:

- school administrators,
- food service professionals,
- nurses,
- parents,
- teachers,
- students,
- local public health officials, and
- cooperative extension.

The Coalition is made up of more than 25 member organizations representing a wide variety of federal agencies, state agencies, and national organizations and associations. •

■ Are Molds on Food Dangerous?

When you see mold on food, is it safe to cut off the moldy part and use the rest?

To find the answer to that question and others, delve beneath the surface of the food to where molds take root by downloading a new fact-sheet from the USDA Meat and Poultry Hotline: *Molds on Food: Are They Dangerous?*

Go to: <http://www.fsis.usda.gov/oa/pubs/molds.htm> •

■ For National Food Safety Education MonthSM: Pick and Choose!

Educators, this year you choose your theme for National Food Safety Education MonthSM in September.

For each of the past four years, consumer education materials have been developed supporting the four key messages from the Fight BAC![®] campaign: clean, separate, cook, and chill.

This year, educators are encouraged to mix and match among the wealth of materials that have been developed for the past campaigns: factsheets, games, quizzes, backgrounders, graphics, artwork, press releases, and public service announcements.

These consumer education materials were developed jointly by the Food Safety and Inspection Service and the U.S. Food and Drug Administration. Twenty thousand CD-ROMs containing all of the campaign materials were mailed out to educators in May 2002.

The CD-ROMs are a treasure-trove of educational resources, including graphics that are sometimes hard to download from the Internet. They are available to educators for free. Requests can be emailed to: fsis.outreach@usda.gov.

The same information is also available from the Web site: <http://www.FoodSafety.gov/September>

September's theme for foodservice focuses on quality control of incoming food products: "Check It Out Before You Check It In." These educational materials were developed by the National Restaurant Association's Education Foundation. They are available through their Web site: <http://www.restaurant.org/nfsem/> •

way they are using technology today is by equipping their inspectors with hand-held devices that allow them to conduct an inspection, print out a report on the spot, and then enter the data into shared communication networks. The hand-held device even comes equipped with its own temperature probe—and records the food's temperature for HACCP monitoring.

A longtime participant in food safety endeavors beyond the boundaries of Walt Disney World, Yiannas believes in the importance of working with every partner in the food safety chain. "At Walt Disney World we know they the only way to get things done is through partnerships," he says.

Yiannas is scheduled to present insights about foodservice at the upcoming conference, "Thinking Globally, Working Locally—A Conference for Food Safety Educators," in Orlando, FL, Sept. 18-20: <http://www.fsis.usda.gov/Orlando2002>. •

■ What IF???? The Manager of Environmental Health at Walt Disney World Were Magically Transformed...

into the owner of a Mom and Pop restaurant. How would Frank Yiannas keep food—and customers—safe?

"I'd do three things," he said.

- No bare hand contact.
- Focus on personal hygiene; this is very, very important.
- Have a HACCP plan in place for the restaurant. It can be simple, checking time and temperature throughout the day. •

How To Keep in Touch With Food Safety Education Information

The Food Safety Educator

This free quarterly newsletter reports on new food safety educational programs and materials as well as emerging science concerning food safety risks. It is distributed to nearly 10,000 educators throughout the country, including public health offices, extension educators, industry, and consumer groups.

To subscribe: provide your full name, organization name, & mailing address.

- Write to: USDA/FSIS/Food Safety Education, Room 2944-South Building, 1400 Independence Ave., SW, Washington, DC 20250-3700, or
- Fax your request to: (202) 720-9063, or
- E-mail your request to: fsis.outreach@usda.gov
- The newsletter is also available on the FSIS Web site:
<http://www.fsis.usda.gov/oa/educator/educator.htm>



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On the Web

- USDA/Food Safety and Inspection Service
<http://www.fsis.usda.gov>
- Thermmy® Web page
<http://www.fsis.usda.gov/thermy>
- FightBAC![®]
<http://www.fightbac.org>
- Gateway to Government Food Safety Information
<http://www.foodsafety.gov>

- FDA/Center for Food Safety and Applied Nutrition
<http://www.cfsan.fda.gov>
- USDA/FDA Foodborne Illness Education Information Center
<http://www.nal.usda.gov/fnic/foodborne>
- Centers for Disease Control and Prevention
<http://www.cdc.gov/foodsafety>

Other Resources

EdNet—a monthly electronic newsletter for food safety educators. To subscribe, send an e-mail message to: Listserv@foodsafety.gov. Send the message: Subscribe EDNET-L *firstname lastname*

foodsafe—an online electronic discussion group. To join, go to: <http://www.nal.usda.gov/fnic/foodborne>

Toll-free—USDA's Meat and Poultry Hotline 1-800-535-4555, for the hearing-impaired (TTY) 1-800-256-7072

Food and Drug Administration's Outreach and Information Center 1-888-SAFEFOOD